Integracides F and G: New tetracyclic triterpenoids from the endophytic fungus Fusarium sp.

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Abstract:

Two new tetracyclic triterpenoids: integracides F (1) and G (2) have been isolated from the endophytic fungus Fusarium sp. isolated from the roots of Mentha longifolia L. (Labiatae) growing in Saudi Arabia. Their structures were established by UV, IR, 1D (1H and 13C), 2D (1H-1H COSY, HMQC, HMBC, and NOESY) NMR, and HRESIMS spectral data, in addition to comparison with literature data. The isolated compounds were evaluated for their anti-microbial, anti-malarial, anti-leishmanial, and cytotoxic activities. Compound 1 and 2 displayed potent cytotoxic activity towards BT-549 and SKOV-3 with IC50 values of 1.97 and 0.16 mg/mL and 1.76 and 0.12 mg/mL, respectively compared to doxorubicin (IC50 1.61 and 0.095 mg/mL, respectively). Moreover, they exhibited significant anti-leishmanial activity towards Leishmania donovani with IC50 values of 3.74 and 2.53 mg/mL, respectively and IC90 values of 5.11 and 8.89 mg/mL, respectively.

Keywords:

Fusarium sp. Integracides Triterpenoids Anti-microbial Anti-malarial Anti-leishmanial Cytotoxic

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